

ENERGY POLICY UPDATE

July 9, 2014

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environmentrelated publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

UPCOMING WEBINARS

- **♣** ENERGY STAR Webinars
- U.S. Dept. of Energy Tribal Renewable Energy Webinar Series for 2014
- ♣ Better Buildings Challenge: Multifamily Update Thursday, July 10, 2014 12:00 pm - 12:45 pm MST Register to attend the webinar.
- ♣ Better Buildings Challenge: Public-Sector Update Thursday, July 24 12:00 pm - 12:45 pm MST Register to attend the webinar.

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

APS To Pay \$3.25 Million for 2011 Outage

Federal regulators found APS' violations undermined operation of the bulk power system, However, since the blackout, they said APS has taken steps to increase reliability and ensure better safety.

[Arizona Republic, July 8] Arizona Public Service Co. has agreed to pay \$3.25 million in civil fines and system improvements to end an investigation into its role in a 2011 power outage that affected millions of customers in Arizona, California and Mexico. The settlement agreement, announced Monday, ends a joint investigation by the Federal Energy Regulatory Commission and the North American Electric Reliability Corporation, which found APS' failure to communicate with neighboring power companies contributed to the cascading blackout. "Enforcement staff and NERC found APS' violations ... to be serious deficiencies undermining reliable operation of the bulk power system," FERC officials said in a statement Monday. "However, since the blackout, APS has worked cooperatively with Enforcement staff and NERC, as well as on its own, to improve reliability." APS officials said Monday the settlement does not imply the company accepts blame.

New ASU Engineering Program Designed To Broaden Solar Energy Expertise

[ASU News, July 2] Engineers who will help lead renewable energy development in Dubai, in the United Arab Emirates, are getting the specialized training they'll need through a new solar energy education program at Arizona State University. The three-week Solar Energy Engineering & Commercialization certificate program geared for professionals in the solar energy industry focuses on the technologies involved in the field, as well as the production and applications of solar energy. The curriculum also emphasizes the social and environmental aspects of the industry, as well as project management, finance, economics and supply chain management.

New Soil Moisture Sensor Tracks Drought Conditions in Arizona, Mexico

[ASU News, June 26] Soil moisture measurements are needed to improve our understanding of water availability in rural and urban areas. Adam Schreiner-McGraw, an Arizona State University graduate student studying hydrology, has installed a new type of soil moisture sensor in four different ecosystems in the southwestern U.S. and northwest Mexico. Currently in the second year of measurements, these probes have tracked remarkably well the moderate drought conditions in Arizona and the aid provided by the wetter-than-average conditions during last summer's monsoon. Many parts of the hydrologic cycle are difficult to measure (such as groundwater movement or evapotranspiration), so mathematical models are used to help estimate these fluxes

and understand how the hydrologic cycle might be changing. Schreiner-McGraw hopes that the data obtained by these soil moisture sensors can be used to improve watershed hydrology models used commonly for assessing impacts of land cover or climate change. About the size of a person and shaped like a space shuttle, these novel probes are called cosmic-ray soil moisture sensors. They are affiliated with the COSMOS (cosmic-ray soil moisture observing system) project, a National Science Foundation-supported project to measure soil moisture based upon cosmic-ray neutrons. An off-the-shelf device, these solar-powered sensors have remote data capture and can be installed in two days with a single field calibration.

Retailers Turn to Solar Energy Slowly

[Arizona Republic, July 5] Retailers in Arizona are slowly turning to solar energy in an effort to reduce climate change, keep energy costs low and create goodwill with their customers. Fry's Food, for example, is piloting a solar program with a PowerParasol at its Phoenix store on Bell Road near Interstate 17. The solar shade structure covers 170 spaces of the grocery store's parking lot and is estimated to generate 80,000 kilowatt-hours a month. "If we can be green, it's a plus for the environment and it keeps prices low," said JoEllen Lynn, a spokeswoman for Fry's Food Stores. She said the company estimates it will save 20 percent of the store's energy costs. Fry's is not the first retailer in the Phoenix area to dip its toe into solar usage. SanTan Village in Gilbert recently installed 2,877 solar panels. Desert Ridge Marketplace in Phoenix installed solar panels four years ago. And Glimcher Realty, the owner of Scottsdale Quarter, is considering incorporating solar energy as part of future expansions there. Experts say that when businesses take notable steps to reduce carbon footprints in communities, they create value to customers.

SRP Transmission Line In Service After 14 Years

[Fierce Smart Grid, July 2] Salt River Project (SRP) has reached a major milestone, completing the last segment of a new 150-mile transmission line that runs from the Palo Verde Nuclear Power Plant area near Tonopah to the Browning Substation located in east Mesa, Arizona. The Palo Verde-Southeast Valley - Browning (PV-SEV) 500 kV project was finally placed in service after 14 long years. Prior to the PV-SEV line, SRP depended on a single 500 kV transmission line to bring energy from the Palo Verde energy hub to the East Valley. The final line segment is the last component of the PV-SEV 500-kV project that began construction in 2006, after six years of planning and approvals. "This new transmission line, which originates in the West Valley, will now bring that power all the way around to the east," said John Underhill, SRP's senior director of system operations. "This provides us with another power source into that area, where little or no generating plants are being built east of the Santan Generating Station." The project was the result a study by SRP and other Arizona electric utilities, showing a need for increased transmission capacity to meet increasing energy demands created by business and residential growth in central Arizona and Tucson. The study concluded that energy deliveries in central Arizona required a new transmission line and other equipment additions, significant upgrades to existing equipment, and the project overall would increase system reliability.

Solar Companies Sue To Stop Property Taxes on Leased Rooftop Panels

[Arizona Republic, June 30] Companies that offer solar leases are suing the Arizona Department of Revenue over its decision last year to tax leased solar panels, which could cost thousands of solar users hundreds or thousands of dollars a year and crush the local solar market. Solar panels in Arizona that homeowners and businesses own are exempt from such taxes. The leasing companies assumed the same exemption applied to them, but after a review, the Revenue Department last year wrote an interpretation that the leased panels did not qualify for the exemption. It suggested the leasing companies should be paying property taxes on their equipment. SolarCity Corp. and Sunrun Inc., along with other industry supporters, tried but failed to get a change through the Legislature earlier this year. The two companies filed their complaint Monday seeking a declaratory judgment in Superior Court. They face millions of dollars in taxes, though the companies have said most of their leasing contracts will pass that liability to the homeowners, businesses, schools and nonprofits that lease the panels.

ALTERNATIVE ENERGY & EFFICIENCY

After Strong Start, U.S. Solar Market Faces Tough Tests in 2014

[Energy Prospects West, July 8] Buoyed by favorable energy policies and regulations, California remains -- by far -- the largest market in the United States for solar power. "So don't worry: There will be plenty of solar to install over the next several years," California Gov. Jerry Brown assured a major solar industry convention in San Francisco on July 7. "To the extent we're getting things done, that's something to celebrate and congratulate ourselves," said Brown, who delivered the opening keynote address at Intersolar North America. During his first term as California's governor, in the mid-1970s, "photovoltaics was something for the space program, not something

for the rooftop," he recalled. As an increasing number of California's rooftops can attest, solar power has long been brought down to earth -- even though this terrestrial business is shooting for the stars. California's solar market got off to a roaring start in 2014, with the state accounting for 72 percent of the 1,330 MW of PV -- and all of the 517 MW of concentrating solar power -- installed nationwide in this year's first quarter, according to a report by the Solar Energy Industries Association (SEIA) and GTM Research. With that, solar led all fuel sources in new U.S. generating capacity additions in the first quarter. While second-quarter data has not yet been published, SEIA and GTM Research anticipate that annual PV capacity additions will grow by 33 percent in 2014 to around 6,600 MW. Including CSP, the California-driven U.S. solar market is on pace to add more than 7 GW of new generating capacity this year.

Energy Department Makes Additional \$4 Billion in Loan Guarantees Available for Innovative Renewable Energy and Efficient Energy Projects

[Energy.gov, July 3] Washington D.C. — In support of the President's Climate Action Plan, the Department of Energy issued a loan guarantee solicitation today, making as much as \$4 billion in loan guarantees available for innovative renewable energy and energy efficiency projects located in the U.S. that avoid, reduce, or sequester greenhouse gases. This solicitation represents the next step in the Department's commitment to support the deployment of innovative, clean energy technologies at commercial scale in the U.S. "As the President emphasized in his Climate Action Plan, it is critical that we take an all-of-the above approach to energy in order to cut carbon pollution, help address the effects of climate change and protect our children's future," said Secretary Ernest Moniz. "Investments in clean, low-carbon energy also provide an economic opportunity. Through previous loan guarantees and other investments, the Department is already helping launch or jumpstart entire industries in the U.S., from utility-scale wind and solar to nuclear and lower-carbon fossil energy. Today's announcement will help build on and accelerate that success." The Renewable Energy and Efficient Energy Projects Loan Guarantee Solicitation is intended to support technologies that are catalytic, replicable, and market-ready. Within the solicitation, the Department has included a sample list illustrative of potential technologies for consideration. While any project that meets the appropriate requirements is eligible to apply, the Department has identified five key technology areas of interest: advanced grid integration and storage: drop-in biofuels: waste-to-energy: enhancement of existing facilities including micro-hydro or hydro updates to existing non-powered dams; and efficiency improvements.

First Solar Makes Progress in Chile as Funding for Luz Del Norte Project Is Approved

[Forbes, July 1] First Solar looks set to commence work on its Luz del Norte power plant, to be built in Chile's Atacama desert, after having secured a financing package for the project. The 141 megawatt project would be Latin America's largest photovoltaic solar power plant and will be the first of several projects that First Solar has in its development pipeline in the region. Although the project is significantly smaller than some of First Solar's North American projects, we believe that it should allow the company to gain a foothold in Chile's nascent, yet promising solar market. Trefis has a \$66 price estimate for First Solar, which is slightly below the current market price.

Renewables To Get Most of \$7.7 Trillion Power Investments

(Corrects to say \$2.5 trillion not billion in the last paragraph. Also corrects dateline.) [Bloomberg, July 1] Renewable energy may reap as much as two-thirds of the \$7.7 trillion in investment forecast for building new power plants by 2030 as declining costs make it more competitive with fossil fuels. About half of the investment will be in Asia, the region where power capacity will grow the most, according to the forecasts in a report released by Bloomberg New Energy Finance today. That will help global carbon dioxide emissions peak by the end of the next decade the London-based researcher said. A glut of solar and wind manufacturing capacity has brought down prices of cells and turbines. That's making clean energy plants in more locations profitable even though governments from Germany to the U.S. are scaling back incentives. Annual investment in technologies such as solar, wind and hydropower surpassed fossil fuels for the first time in 2011.

Mosaic Offers Solar-Power Loans with Maintenance Deal

Its goal is to offer homeowners peace of mind and open the door to securitization [MarketWatch, July 8] SAN FRANCISCO — Privately held solar financing company Mosaic and Enphase Energy Inc. have formed a partnership to offer residential solar-power loan packages that include system maintenance as part of the deal, the companies said Tuesday. The program provides homeowners who might purchase the solar panels peace of mind by providing upkeep services. It is also a "significant step forward" toward securitizing residential solar loans, Oakland, Calif.-based Mosaic said. That would allow large investors to bundle and sell solar-power loans like they do with mortgages. and investors have considered residential solar loans as riskier than residential solar leases because of the issue of who will maintain the panels. Solar-panel leases

typically include maintenance service by the leasing company. Offering a guarantee of service by Petaluma, Calif.-based Enphase will make the loans more appealing to conservative investors, Mosaic said. In the typical solar-lease agreement, homeowners are usually locked in to a decades-long contract but pay little or no money up front for a system on their roofs. Lease payments are usually smaller than monthly electricity bills, but homeowners often miss out on state and federal incentives by not buying a system outright. Solar-panel leases were popularized by privately held SunRun Inc. and SolarCity Corp.

ENERGY/GENERAL

IBM Will Help Beijing Monitor Pollution

New York Times, July 7] BEIJING — IBM announced an agreement on Monday with the city of Beijing to use advanced weather forecasting and cloud computing technologies to help tackle the Chinese capital's persistent smog. After a series of pollution scares and scandals, China's central government has promised to reverse some of the damage done to the nation's sky, rivers and soil by more than three decades of growth. But China first has to improve data collection and monitoring and forecasting capabilities before it can work on cutting smog and pollution. The city of Beijing already uses an alert system based on data from 35 monitoring stations, allowing it to shut schools and factories and cut traffic three days in advance of heavy pollution, but residents say that not enough is being done. "Predicting is helpful because it helps prevent exposure, but it is not enough if it is only about knowing which days to put on masks or stay indoors," said Ma Jun, director of the Institute of Public and Environmental Affairs, a nongovernment group that works to improve emissions data transparency. Under the agreement with IBM, Beijing's city government will be one of the partners in the company's China-focused, 10-year Green Horizon initiative, which aims to draw on IBM's forecasting expertise and the collection of real-time emissions data to predict smog buildup.

Russian Hackers Threaten Power Companies, Researchers Say

[Bloomberg, July 1] A Russian group of hackers known as "Energetic Bear" is attacking energy companies in the U.S. and Europe and may be capable of disrupting power supplies, cybersecurity researchers said. The hackers, also called "Dragonfly," appear to have the resources, size and organization that suggest government involvement, security company Symantec Corp. (SYMC) said in a blog post yesterday. The attackers are targeting grid operators, petroleum pipeline operators, electricity generation firms and other "strategically important" energy companies, it said. Those group's activities highlight the increasing reach of cyberattacks as everlarger parts of the economy become connected and controlled via the Web. They may also be symptomatic of governments using hacking to support political strategies. More than half of the infections found were in the U.S. and Spain, Symantec said, while Serbia, Greece, Romania, Poland, Turkey, Germany, Italy and France were also targeted. The hackers, who have been active since at least 2011, appeared to work a standard week, operating 9 a.m. to 6 p.m., Monday through Friday, in a time zone shared by Russia and other eastern European countries, Symantec said.

INDUSTRIES AND TECHNOLOGIES

Near Zero Emission Trucks Increasing

[Fierce Energy, July 7] More than one-third of all medium and heavy duty commercial trucks registered in the United States are now equipped with newer technology clean diesel engines, according to IHS Automotive research for the Diesel Technology Forum (DTF). That's 2.9 million out of 8.8 million trucks. "Because more than 95 percent of all heavy duty trucks are diesel-powered, it is significant that more than one-third of these trucks are near zero emission vehicles," said Allen Schaeffer, executive director of the Diesel Technology Forum. The new clean diesel technology has reduced emissions from heavy-duty diesel trucks and buses by 99 percent for nitrogen oxides (NOx) and 98 percent for particulate emissions, according to DTF. In December 2000, U.S. Environmental Agency (EPA) adopted a rulemaking to establish stringent standards designed to reduce emissions from on-road heavy-duty trucks and buses by up to 95 percent and to cut the allowable levels of sulfur in diesel fuel by 97 percent.

Report: Waste Technology To Reach \$6.5B by 2023

[Power Engineering, July 1Navigant Research has released a new report, "Smart Waste", finding global revenue from smart municipal solid waste (MSW) technology will grow from \$2.3 billion annually in 2014 to \$6.5 billion in 2023. According to the report, emerging technologies offer the opportunity to generate renewable energy from MSW. "While the total volume of waste generated globally is expected to grow by nearly 50 percent over the next 10 years, the adoption of innovative technologies will result in more integrated waste management offerings that move

beyond the traditional use of labor, diesel trucks, and conventional landfills," said Mackinnon Lawrence, research director with Navigant Research. Common existing technologies include smart processing, which is utilized at advanced recovery facilities; and energy recovery which includes waste-to-energy, waste-to-fuels, and landfill gas-to-energy technologies.

Smart City Tech To Reach \$27.5 Billion by 2023

[Electric Light & Power, July 7] Worldwide revenue from smart city technology will grow from \$8.8 billion in 2014 to \$27.5 billion in 2023, according to a new report from Navigant Research. Creating more sustainable, resilient, and livable cities is of vital importance to nations around the world. In particular, the rapid urbanization of Asia and Africa is driving strong growth in the market for smart city technologies that can connect and modernize power grids, water treatment and transfer systems, transportation management systems and energy efficient buildings.

Tech Companies Use Energy Data To Fuel Innovations

[Energy Manager Today, July 8] In May, the US Environmental Protection Agency released its Clean Power Plan, which pushes states to increase energy efficiency by businesses and residential power users 1.5 percent each year. As a result, investment in energy efficiency technology, programs and products is predicted to increase. This trend is being mirrored worldwide. Spending on energy-efficiency technologies and programs reached \$250 billion worldwide last year, and that amount is expected to more than double by 2035, according to an article in the Seattle Times. Power companies are tapping databases to profile the energy use of their customers the way that big-box retail companies track customer product choices, and tech companies are seizing on the opportunity to use multi-billion-dollar state and national programs to fuel energy-efficiency products and technologies.

LEGISLATION AND REGULATION

China, E.U., U.S. Talk Trade on Renewable Energy, Pollution Control Goods

[Associated Press, July 8] GENEVA — Diplomats from the United States, China and the European Union began talks Tuesday with 11 other countries toward a deal that would cut tariffs on almost \$1 trillion of environmental goods. The proposed agreement at the World Trade Organization would cover 86 percent of trade in goods such as solar panels and wind turbines for generating renewable energy, filters for wastewater treatment and catalytic converters for air pollution control. U.S. exports of environmental goods reached \$106 billion last year, and have grown 8 percent a year since 2009. The negotiations also include Australia, Canada, Costa Rica, Hong Kong, Japan, Korea, New Zealand, Norway, Singapore, Switzerland and Chinese Taipei. They are meant to build on a list of 54 environmental goods put together by members of APEC — the Asia-Pacific Economic Cooperation for Pacific Rim economies — for which the governments hope to reduce tariffs to five percent or less by the end of 2015. The first stage of negotiations aims to eliminate tariffs or customs duties on a broad range of environmental goods, EU trade officials said. A second stage could also address what's known as non-tariff barriers and environmental services.

DOE Issues Final Rule on Water Heater Test Procedure

[Energy Manager Today, July 1] The US Department of Energy (DOE) issued a pre-publication Federal Register final rule regarding the test procedure for residential water heaters and certain commercial water heaters so that it better represents real-world conditions. Under the final rule, a uniform descriptor will be established that can be applied to all residential water heaters and to certain commercial water heaters that have residential applications. The final rule also establishes a new equipment class of commercial water heaters and corresponding definition for "residentialduty commercial water heater." DOE will require water heaters that are classified as "residentialduty commercial" to be tested using the procedure outlined in the final rule. DOE has also established the use of multiple draw patterns for testing water heaters, with certain draw patterns prescribed based on equipment capacity. The water heater draw pattern has been updated to be more reflective of real-world use, and the outlet water temperature requirement has been modified to better reflect conditions encountered in typical field installations. While the new procedure addresses a number of longstanding testing issues in order to better replicate real-world usage and to more accurately measure energy consumption across various technologies, according to an American Council for an Energy-Efficient Economy (ACEEE) blog post, the DOE missed an opportunity to ensure that the electric heat pump water heater (HPWH) performs as expected in cold temperatures.

Solar Thin-Film Panels Surge to 11-Month High on Trade Dispute

[Renewable Energy World, July 4] NEW YORK – Thin-film solar panel prices climbed to an 11-month high after U.S. regulators proposed new tariffs that would close a loophole on Chinese-made modules. Spot prices for thin-film modules rose 5.2 percent in the past month to 61.2 cents

a kilowatt for the week ending July 4, the highest since July 31, according to data compiled by PVinsights. Prices have rebounded from a record low of 58.2 cents on June 4. Over the same period, the more commonly used polysilicon panels produced mostly in China declined 2.8 percent to 63.2 cents. The U.S. Commerce Department last year set duties on Chinese-manufactured panels after SolarWorld AG complained that they were being sold at prices below cost. On June 3, the department proposed closing a loophole that allowed Chinese manufacturers to ship panels through Taiwan. The increased threat of tariffs on Chinese suppliers may help thin-film manufacturers such as First Solar Inc. in the U.S. and Solar Frontier K.K. in Japan, whose panels often sell at a discount to more efficient modules made in China, said Jenny Chase, an analyst at Bloomberg New Energy Finance in Zurich. "It's very possible that the trade wars have made really low-cost Chinese modules increasingly unusable in many markets," Chase said today in a e-mail. "That's causing developers to look to thin-film." The department set preliminary duties on standard polysilicon modules from China and Taiwan of 19 percent to 35 percent on June 3. A final determination is expected by Aug. 18. The International Trade Commission is also expected to issue a ruling on the issue within 45 days of the department's decision.

WESTERN POWER

A California Oil Field Yields Another Prized Commodity

[New York Times, July 7] Bakersfield, CA - The 115-year-old Kern River oil field unfolds into the horizon, thousands of bobbing pumpjacks seemingly occupying every corner of a desert landscape here in California's Central Valley. A contributor to the state's original oil boom, it is still going strong as the nation's fifth-largest oil field, yielding 70,000 barrels a day. But the Kern River field also produces 10 times more of something that, at least during California's continuing drought, has become more valuable to many locals and has experienced the kind of price spike more familiar to oil: water. The field's owner, Chevron, sells millions of gallons every day to a local water district that distributes it to farmers growing almonds, pistachios, citrus fruits and other crops. It is one of the more unusual sources of water, one whose importance has increased in a year when the drought has forced farmers to fallow fields and bulldoze almond orchards. The water is pumped out of the same underground rock that contains oil; after the two are separated, the water flows through an eight-mile pipeline to Bakersfield's Cawelo Water District, which this year will rely on Chevron's water for half of its supply, up from an average of a quarter. The district sells it exclusively to farmers for irrigation and reduces its salinity by blending it with water from other sources. "These are the years that it really shines, because that water is constant no matter what the hydrology is," said David R. Ansolabehere, the district's general manager. "In wet years, it almost becomes a problem because we don't have so much use for it. But in dry years, boy, it really does come in handy." Criticized for its use of water, especially in the process known as fracking, the oil industry is focusing on efforts to conserve and recycle water — or, in this case, to increase the available supply for irrigation. As drought has gripped California and Texas, the nation's No. 3 and No. 1 oil-producing states, respectively, the industry has taken tentative steps to minimize its freshwater consumption. Some companies are recycling water produced in fracking, or hydraulic fracturing, while others have been fracking with brackish water and even without water.

Abengoa Chosen for San Antonio Water Delivery Project

[Bloomberg, July 2] Abengoa (ABG) SA, a renewable energy developer involved in solar, wind and desalination projects from Mexico to Dubai, won a contract to deliver water to the Texas city of San Antonio to help ease its supply constraints. Abengoa will develop the project calling for the delivery of 50,000 acre-feet per year of water to San Antonio through a 142-mile (225-kilometer) pipeline, the Seville, Spain-based company said in a statement. Terms of the 30-year contract for the project to bring water from Burleson County that includes a water-treatment plant and 18 wells weren't given. The project will help San Antonio diversify its long-term water sources and secure supplies strained by the Edwards aquifer, Abengoa said. Construction will take start next year and be completed by 2019, creating 300 jobs during the building phase. The company is already constructing the El Zapotillo aqueduct in Mexico, one of the largest water projects in the world that's to supply drinking water to 1.5 million people.

Nevada Solar Net Metering Will Save the Grid \$36 Million, Savs State Report

[Renewable Energy World, July 8] Step outside in Las Vegas on any July afternoon, and you can't help but recognize Nevada's tremendous solar opportunity. Recent solar price declines coupled with a restructured state incentive program and strong net metering policy mean that the state is now primed to make good on its rooftop solar promise in a big way. And just like clockwork, cue the utility opposition to customer solar adoption. NV Energy, the biggest utility in the state, wants to raise residential fixed charges in southern Nevada a whopping 50 percent to \$15.25 per month. Charges like this create a big disincentive for solar and efficiency measures because they are

slapped on customers no matter how much energy they buy from the utility. Invest in a new energy-saving refrigerator? You still pay that \$15.25 fee on your utility bill each month. Went solar to reduce your dependence on utility power? Still \$15.25. The fixed charge proposal is just one piece of a multipronged effort by NV Energy to make rooftop solar a bad deal for its customers. The utility is also pushing the Commission to recommend changes to the state's net metering law, the cornerstone program that gives NV Energy solar customers credit on their utility bills for valuable power they deliver to the grid for use nearby. Like many utilities across the country, NV Energy is now aiming to guell the growth of rooftop solar with rhetoric about the costs of net metering. But a Public Utilities Commission (PUC)-ordered study released last week shows just how unfounded NV Energy's anti-solar efforts are. The study, conducted for state regulators by consulting firm Energy and Environmental Economics (E3), found that the grid benefits of rooftop clean energy systems installed through 2016 will exceed the costs by \$36 million. Private investment in local solar generation delivers real savings to the grid and other ratepayers. If anything, net metering under-compensates Nevada solar customers for the valuable clean energy they produce.

PNM Resource Plan Outlines Replacing San Juan Coal Capacity

IElectric Light & Power, July 21 PNM Resources unit Public Service Co. of New Mexico on July 1 filed its 2014 Integrated Resource Plan with the New Mexico Public Regulation Commission. The plan covers a 20-year planning horizon and includes specific recommendations for the next four years. In addition, PNM's resource plan is consistent with the company's five-year capital investment plan, according to GenerationHub. To create the plan, PNM said it analyzed thousands of potential energy resource combinations to identify the best possible mix of generation sources. PNM considered future changes in the cost and reliability of each resource mix over time. Based on the results of the analysis, the company expects to add significant renewable energy resources to its power portfolio in the coming years.

San Antonio To Become Home to Nation's Largest Desalination Plant

[Fierce Energy, July 7] San Antonio Water System (SAWS) is constructing what will become the largest inland desalination plant in the country. The plant will desalinate groundwater from deep in the Wilcox Aguifer in southern Bexar County in Texas, "Desalination is another tool in the portfolio that we are using to serve San Antonio," said SAWS President and CEO Robert R. Puente. "There are 'oceans' of brackish water under our feet unaffected by temporary weather conditions, so this is a supply that will be there for us even in drought." Desalination pushes the salty water through reverse osmosis membranes with holes that are 100,000 times smaller than a human hair, removing 97 percent of the salts and minerals in the water. Once treated, the water will be blended with water in the rest of the SAWS system. A major water pipeline will be built to help deliver the water from southern Bexar County to the western part of the city. The desalination plant, which opens in 2016, will produce 12 million gallons per day. Additions to the plant are scheduled for 2021 and 2026. When all is said and done, the plant will produce 30 million gallons per day.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

INCENTIVES

Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- **Job Training**
- **Quality Jobs**
- **Qualified Facility**
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- **Angel Investment**

- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

(ACA) PROGRAMS

DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)

- Arizona Incentives/Policies
- Federal Incentives/Policies
- Solar Policy News DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available: (Click on title to view solicitation)

- NEW! Promoting Consensus on Fossil Energy Technologies Response due July 23, 2014
- NEW! Grid-Scale Electricity Storage Response due August 4, 2014
- NEW! Tribal Energy and Mineral Development Grants Response due August 22, 2014
- Hydrogen Fuel Cell Technologies Incubator Response due September 3, 2014
- Manufacturing Machines and Equipment Response due September 15, 2014
- Secure and Trustworthy Cyberspace Response due September 19, 2014
- Nanomanufacturing Response due October 1, 2014
- Civil Infrastructure Systems Response due October 1, 2014
- Energy for Sustainability Response due October 30 ,2014
- Sunshot "Race to the Roof" Initiative Registration due October 31, 2014
- Energy, Power, and Adaptive Systems Close Date: November 3, 2014
- National Robotics Initiative Response due November 14, 2014
- NSF/DOE Partnership on Advanced Frontiers in Renewable Hydrogen Fuel Production Via Solar Water Splitting Technologies 2014-2016 - Close Date: Dec. 11, 2014
- Energy for Sustainability Response Due: February 19, 2015
- Solar Market Pathways Response due July 3, 2015

- Advanced Fossil Energy Projects Solicitation Number: DE-SOL-0006303 Expiration Date: November 30, 2016
- Energy Department Announces Next Phase of L Prize Competition to Create Innovative Energy-Saving Lighting Products – Notification of Intent to Submit Product minimum of 30 days, but no more than 45 days prior to product submission. Monetary prize goes to the first successful entrant with the earliest timestamp.
- Repowering Assistance Program Ongoing
- · Rural Business Enterprise Grants Ongoing
- Rural Business Opportunity Grants Ongoing
- Sustainable Agriculture Research and Education Grants Ongoing
- Renewable Energy RFP's Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture Rural Development Grant Assistance
- Green Refinance Plus Ongoing

ENERGY-RELATED EVENTS

2014

- Renewable Energy Development on Federal Lands 2014
 July 16-17, 2014 Denver, CO
- HydroVision International July 22-25, 2014 Nashville, TN
- Biomass 2014: Growing The Future Bioeconomy July 29-30, 2014 Washington, DC
- DOE Commercial-Scale Tribal Renewable Energy Project Dev. & Finance Workshop July 29-31, 2014 Golden, CO
- National Geothermal Summit August 5-6, 2014 Reno, NV
- Microgrid Development for Public & Private Sectors August 12-14, 2014 San Diego, CA
- 2014 ACEEE Summer Study on Energy Efficiency in Buildings August 17-22, 2014 Pacific Grove, CA
- 4 2014 Farm Progress Show August 26-28, 2014 Boone, IA
- Symposium on Thermal & Catalytic Sciences for Biofuels & Biobased Products September 2-5, 2014 Denver, CO
- ♣ EPI's 4th Annual Energy Policy Research Conference September 4-5, 2014 San Francisco, CA
- HTUF 2014 National Meeting The Forum for Action in High-Efficiency Commercial Vehicles
 September 22-24, 2014 Argonne, National Lab - Argonne, IL
- Geothermal Energy Expo September 28-October 1, 2014 Portland, OR

- ♣ AWEA Offshore Windpower Conference & Exhibition 2014 October 7-8, 2014 Atlantic City, NJ
- Solar Power International October 20-23, 2014 Las Vegas, NV
- GreenBuild International Conference & Expo October 22-24, 2014 New Orleans, LA
- World Bio Markets USA October 27-29, 2014 San Diego, CA
- VERGE SF 2014 October 27-30, 2014 San Francisco, CA
- Governor's Celebration of Innovation November 13, 2014 Phoenix, AZ
- Solar Power Generation USA 2015
 February 4-5, 2015
 San Diego, CA
- ♣ ASU Sustainability Series Events
- Green Building Lecture Series Granite Reef Senior Center Scottsdale, AZ